



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/750,311	12/29/2000	Fulvio Arecco	201524US-2	6738

7590 11/04/2004

Barton E Showalter Esq
Baker Botts LLP
Suite 600
2001 Ross Avenue
Dallas, TX 75201-2980

EXAMINER

KIM, DAVID S

ART UNIT PAPER NUMBER

2633

DATE MAILED: 11/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/750,311

Applicant(s)

ARECCO ET AL.

Examiner

David S. Kim

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 36-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 36-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. Applicant's compliance with the objections raised in a previous Office Action (mailed 01 July 2004) concerning the specification is appreciated and noted. Therefore, the objections are withdrawn.

Claim Rejections - 35 USC § 112

2. Applicant's compliance with the rejection of claim 40 under 35 U.S.C. 112 in the previous Office Action (mailed 01 July 2004) is noted and appreciated. In Applicant's most recent response (filed 16 July 2004), Applicant amended claim 40 such that the previous rejection is overcome. Therefore, the previous rejection is withdrawn.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Application No. 09/608,657 as a primary reference:

4. **Claims 36-46** are provisionally rejected under 35 U.S.C. 102(e) as being anticipated by copending Application No. 09/608,657 which has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the copending application, it would constitute prior art under 35 U.S.C. 102(e), if published under 35 U.S.C. 122(b) or

Art Unit: 2633

patented. This provisional rejection under 35 U.S.C. 102(e) is based upon a presumption of future publication or patenting of the copending application.

Regarding claim 36, Application No. 09/608,657 discloses:

An apparatus, comprising:

a first ring network (outer ring in Fig. 2) having a first optical carrier; and

a second ring network (inner ring in Fig. 2) having a second optical carrier, wherein the first optical carrier is operable to transmit one or more signals in a first direction (counterclockwise) and the second optical carrier is operable to transmit one or more signals in a second direction (clockwise) that is opposite to the first direction, and wherein the first and second ring networks implement a wavelength division multiplexing protocol (p. 16, last paragraph, note wavelength bands $\lambda_1 \dots \lambda_N$ in Fig. 2), the first and second ring networks including:

a pair of nodes that comprise a first (node 20c in Fig. 2) and a second node (node 20f in Fig. 2), the pair being coupled along the first and second optical carriers and being operable to manage a subset of wavelengths within a set of transmission wavelengths, wherein the first and second nodes are further operable to communicate with each other and to communicate along a working path under normal operative conditions (Fig. 2), the first and second nodes being further operable to communicate with each other along a protection path during a failure (Fig. 9) within a selected one of the first and second ring networks such that one or more optical signals are rerouted along the protection path (path between nodes 20c and 20f in Fig. 9) during the failure, and wherein a response to a failure condition is executed on a channel level (original disclosure, p. 7, l. 4-5, p. 8, 1st full paragraph – p. 9, 1st full paragraph), the first and second ring networks being coupled to an optical switch unit (optical switch unit 15 in figures) that includes a number of switching blocks that is twice a number of protected channels (i.e. four switches 22-25 for two channels).

Art Unit: 2633

Regarding claim 37, Application No. 09/608,657 discloses:

The apparatus of Claim 36, wherein the first and second ring networks are operable to propagate one or more optical signals in one or more transmission channels (note wavelength bands $\lambda_1...N$) included therein, the one or more transmission channels being defined by a set of wavelengths having a predetermined wavelength transmission band.

Regarding claim 38, Application No. 09/608,657 discloses:

The apparatus of Claim 36, wherein the pair of nodes are operable to communicate optical data at first (λ_x) and second wavelengths (λ_y).

Regarding claim 39, Application No. 09/608,657 discloses:

The apparatus of Claim 38, wherein the working path utilizes the first wavelength (λ_x) for optical data propagation on the first ring network (outer ring in Fig. 2) and the second wavelength (λ_y) for optical data propagation on the second ring network (inner ring in Fig. 2).

Regarding claim 40, Application No. 09/608,657 discloses:

The apparatus of Claim 39, wherein the first wavelength is not used during a selected time interval (note that the inner ring in Fig. 2 lacks a λ_x signal, but only when operating without a failure as shown in Fig. 9) on the second ring network for optical data propagation and the second wavelength is not used during a selected time interval (note that the outer ring in Fig. 2 lacks a λ_y signal, but only when operating without a failure as shown in Fig. 9) on the first ring network for optical data propagation.

Regarding claim 41, Application No. 09/608,657 discloses:

The apparatus of Claim 39, wherein the pair of nodes are operable to communicate optical data at a pair of generic wavelengths (λ_x and λ_y) that define a logical ring (p. 18) that may include the working path that utilizes the first wavelength on the first ring network and the second wavelength on the second ring network.

Regarding claim 42, Application No. 09/608,657 discloses:

Art Unit: 2633

The apparatus of Claim 38, wherein the protection path utilizes the first and second wavelengths (note λ_x and λ_y on the path between nodes 20c and 20f in Fig. 9) to communicate optical data.

Regarding claim 43, Application No. 09/608,657 discloses:

The apparatus of Claim 36, wherein the first and second nodes are operable to perform add/drop/bypass operations (note OADMs of Fig. 3 in nodes of Fig. 2, p. 19) for one or more optical signals propagating along a selected one of the first and second ring networks.

Regarding claim 44, Application No. 09/608,657 discloses:

The apparatus of Claim 36, wherein the first and second nodes are operable to perform an amplification operation (amplifiers on p. 20, last paragraph and p. 21, last paragraph and p. 27, last paragraph and p. 31, last paragraph) for one or more optical signals propagating along a selected one of the first and second ring networks.

Regarding claim 45, Application No. 09/608,657 discloses:

The apparatus of Claim 36, wherein the first and second nodes are operable to perform a regeneration (p. 19, last full paragraph) operation for one or more optical signals propagating along a selected one of the first and second ring networks.

Regarding claim 46, Application No. 09/608,657 discloses:

The apparatus of Claim 36, wherein the first (outer ring in Fig. 2) and second ring (inner ring in Fig. 2) networks define an optical transmission system that includes inner and outer ring networks that are operable to facilitate propagation of optical data in opposite directions (counterclockwise and clockwise in Fig. 2).

This provisional rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the copending application was derived from the inventor of this application and is thus not the invention "by another," or

Art Unit: 2633

by an appropriate showing under 37 CFR 1.131. This rejection may not be overcome by the filing of a terminal disclaimer. See *In re Bartfeld*, 925 F.2d 1450, 17 USPQ2d 1885 (Fed. Cir. 1991).

Cadeddu et al. as a primary reference:

5. **Claims 36-44 and 46** are rejected under 35 U.S.C. 102(b) as being anticipated by Cadeddu et al. (U.S. Patent No. 5,647,035).

Regarding claim 36, Cadeddu et al. discloses:

An apparatus, comprising:

a first ring network (outer ring in Fig. 1) having a first optical carrier; and

a second ring network (inner ring in Fig. 1) having a second optical carrier, wherein the first optical carrier is operable to transmit one or more signals in a first direction (clockwise) and the second optical carrier is operable to transmit one or more signals in a second direction (counterclockwise) that is opposite to the first direction, and wherein the first and second ring networks implement a wavelength division multiplexing protocol (WDM scheme in abstract), the first and second ring networks including:

a pair of nodes that comprise a first (node 2B in Fig. 2) and a second node (node 2C in Fig. 1), the pair being coupled along the first and second optical carriers and being operable to manage a subset of wavelengths within a set of transmission wavelengths, wherein the first and second nodes are further operable to communicate with each other and to communicate along a working path under normal operative conditions (Fig. 1), the first and second nodes being further operable to communicate with each other along a protection path during a failure (Fig. 2) within a selected one of the first and second ring networks such that one or more optical signals are rerouted along the protection path (path between nodes 2B and 2C, said path passing through nodes 2A, 2F, 2E, and 2D in Fig. 2) during the failure, and wherein a response to a failure condition is executed

Art Unit: 2633

on a channel level (notice that the switches in the figures enable switching for individual channels, i.e. 12B for the single channel on λ_1 in Figs. 3-6, 12A for the single channel on λ_2 in Figs. 3-6), the first and second ring networks being coupled to an optical switch unit (i.e. any of the nodes in Figs. 1-2) that includes a number of switching blocks that is twice a number of protected channels (i.e. four switches 11A, 11B, 12A, 12B for two channels in Figs. 3-6).

Regarding claim 37, Cadeddu et al. discloses:

The apparatus of Claim 36, wherein the first and second ring networks are operable to propagate one or more optical signals in one or more transmission channels (wavelengths λ_1 and λ_2) included therein, the one or more transmission channels being defined by a set of wavelengths having a predetermined wavelength transmission band.

Regarding claim 38, Cadeddu et al. discloses:

The apparatus of Claim 36, wherein the pair of nodes are operable to communicate optical data at first (λ_1) and second wavelengths (λ_2).

Regarding claim 39, Cadeddu et al. discloses:

The apparatus of Claim 38, wherein the working path utilizes the first wavelength (λ_1) for optical data propagation on the first ring network (outer ring in Fig. 1) and the second wavelength (λ_2) for optical data propagation on the second ring network (inner ring in Fig. 1).

Regarding claim 40, Cadeddu et al. discloses:

The apparatus of Claim 39, wherein the first wavelength is not used during a selected time interval (note that the inner ring in Fig. 1 lacks a λ_1 signal, but only when operating without a failure as shown in Fig. 2) on the second ring network for optical data propagation and the second wavelength is not used during a selected time interval (note that the outer ring in Fig. 2 lacks a λ_2 signal, but only when operating without a failure as shown in Fig. 2) on the first ring network for optical data propagation.

Regarding claim 41, Cadeddu et al. discloses:

The apparatus of Claim 39, wherein the pair of nodes are operable to communicate optical data at a pair of generic wavelengths (λ_1 and λ_2) that define a logical ring that may include the working path that utilizes the first wavelength on the first ring network (outer ring in Fig. 1) and the second wavelength on the second ring network (inner ring in Fig. 1).

Regarding claim 42, Cadeddu et al. discloses:

The apparatus of Claim 38, wherein the protection path utilizes the first and second wavelengths (note λ_1 and λ_2 on the path between nodes 2B and 2C, said path passing through nodes 2A, 2F, 2E, and 2D in Fig. 2) to communicate optical data.

Regarding claim 43, Cadeddu et al. discloses:

The apparatus of Claim 36, wherein the first and second nodes are operable to perform add/drop/bypass operations (note ADMs in col. 6, lines 20-25, bypass in Fig. 6) for one or more optical signals propagating along a selected one of the first and second ring networks.

Regarding claim 44, Cadeddu et al. discloses:

The apparatus of Claim 36, wherein the first and second nodes are operable to perform an amplification operation (EDFAs at the reconfiguration in the nodes in col. 9, lines 59-62) for one or more optical signals propagating along a selected one of the first and second ring networks.

Regarding claim 46, Cadeddu et al. discloses:

The apparatus of Claim 36, wherein the first (outer ring in Fig. 1) and second ring (inner ring in Fig. 1) networks define an optical transmission system that includes inner and outer ring networks that are operable to facilitate propagation of optical data in opposite directions (clockwise and counterclockwise in Fig. 1).

Art Unit: 2633

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. **Claim 45** is rejected under 35 U.S.C. 103(a) as being unpatentable over Cadeddu et al. in view of Ramaswami et al. (*Optical Networks: A Practical Perspective*).

Regarding claim 45, Cadeddu et al. does not expressly disclose:

The apparatus of Claim 36, wherein the first and second nodes are operable to perform a regeneration operation for one or more optical signals propagating along a selected one of the first and second ring networks.

However, apparatuses that comprise nodes that are operable to perform regeneration operations are well known and common in the art. In particular, Cadeddu et al. describes an operation in the nodes of the apparatus that matches all of the technical steps of a regeneration operation (col. 5, lines 26-30). That is, Cadeddu et al. teaches converting a signal from optical form to electrical form and back to optical form. This very teaching matches the description of

Art Unit: 2633

standard regeneration operations, described by Ramaswami et al. (Ramaswami et al., p. 10-11). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to expressly incorporate a regeneration operation in the nodes of Cadeddu et al. One of ordinary skill in the art would have been motivated to do this since there are transmission situations where an optical signal "may not be able to remain in optical form all the way to its destination and may have to be regenerated in between" (Ramaswami et al., p. 10, last paragraph).

Double Patenting

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. **Claims 36-39, 41-44, and 46** are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 2 of copending Application No. 09/608,657 in view of Cadeddu et al.

Regarding claim 36, consider claim 2 of the copending application.

Claim no. in instant application	Limitation in the claim of the instant application	Claim no. in copending application	Corresponding limitation in the claim of the copending application
36	1 st optical carrier	2	1 st optical carrier
	2 nd optical carrier		2 nd optical carrier
	WDM protocol		Usage of multiple wavelengths on each carrier
	Pair of nodes		Nodes communicating in pairs
	Subset and set of wavelengths		Subset and set of wavelengths
	Working path		Working link

Art Unit: 2633

	Normal operative conditions		Normal condition
	Failure		Failure condition
	Protection path		1 st wavelength on the 2 nd optical carrier and the 2 nd wavelength on the 1 st optical carrier

Claim 2 of the copending application does not expressly disclose:

A first ring network having the first optical carrier; and

a second ring network having the second optical carrier.

However, ring networks are extremely common and well known in the art. Cadeddu et al. discloses ring networks. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to arrange the first optical carrier and the second optical carrier of claim 2 of the copending application in ring architectures. One of ordinary skill in the art would have been motivated to do this since such an “architecture allows providing protection against line and device failures and against degradation in transmission performance (Cadeddu et al., col. 1, lines 48-50).

Regarding claims 37-39 and 41-43, consider claim 2 of the copending application in view of Cadeddu et al.

Claim no. in instant application	Limitation in the claim of the instant application	Claim no. in copending application	Corresponding limitation in the claim of the copending application
37	Set of wavelengths having a predetermined wavelength transmission band	2	Predetermined subset of wavelengths in a set of transmission wavelengths
38	Communicate data at 1 st and 2 nd wavelengths	2	Communicating in pairs, 1 st and 2 nd wavelengths
39	1 st wavelength on 1 st ring network, 2 nd wavelength on 2 nd ring network	2	1 st wavelength on 1 st carrier in ring architecture of Cadeddu et al., 2 nd wavelength on 2 nd carrier in ring architecture of Cadeddu et al.
41	Pair of generic wavelengths, logical ring, 1 st wavelength on 1 st ring network, 2 nd wavelength on 2 nd ring	2	1 st and 2 nd wavelengths, exchange of optical signals through 1 st wavelength and 2 nd wavelength, 1 st wavelength on 1 st carrier in ring

	network		architecture of Cadeddu et al., 2 nd wavelength on 2 nd carrier in ring architecture of Cadeddu et al.
42	Protection path utilizes the 1 st and 2 nd wavelengths	2	1 st wavelength on the 2 nd optical carrier and the 2 nd wavelength on the 1 st optical carrier
43	Nodes are able to perform add/drop/bypass operations	2	Each of the nodes comprises optical add/drop multiplexers performing add, drop, bypass

Regarding claim 44, claim 2 of the copending application in view of Cadeddu et al. does not expressly disclose the first and second nodes being operable to perform an amplification operation. However, it is well known and common for nodes to perform an amplification operation. Cadeddu et al. discusses nodes that perform such an operation (Cadeddu et al., col. 9, lines 59-64). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate an amplification operation in the first and second nodes of claim 2 of the copending application. One of ordinary skill in the art would have been motivated to do this to recover any signal losses that can occur because of passage through the nodes and the carriers (Cadeddu et al., col. 9, lines 61-64).

Regarding claim 46, claim 2 of the copending application in view of Cadeddu et al. discloses the first and second ring networks that are operable to facilitate propagation of optical data in opposite directions. However, claim 2 of the copending application in view of Cadeddu et al. does not expressly disclose that these two ring networks define an optical transmission system that includes inner and outer ring networks. Cadeddu et al. discusses such a system that includes inner and outer ring networks (Cadeddu et al., Figs. 1-2). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to arrange the ring networks of claim 2 of the copending application in view of Cadeddu et al. into a system that includes inner and outer ring networks, as taught in Cadeddu et al. One of ordinary skill in the art would have been motivated to do this since this system architecture provides various

Art Unit: 2633

benefits, such as protection from failures, and protection means that maintain normal operating conditions of unaffected nodes (Cadeddu et al., col. 2, lines 8-17).

This is a provisional obviousness-type double patenting rejection.

11. **Claim 45** is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 2 of copending Application No. 09/608,657 in view of Cadeddu et al. as applied to claim 36 above, and further in view of Ramaswami et al.

Regarding claim 45, claim 2 of the copending application in view of Cadeddu et al. does not expressly disclose the first and second nodes being operable to perform a regeneration operation. However, it is well known and common for nodes to perform a regeneration operation. Ramaswami et al. discusses standard regeneration operations. (Ramaswami et al., p. 10-11). Ramaswami et al. teaches that regeneration operations comprise converting a signal from optical form to electrical form and back to optical form. Claim 2 of the copending application even discloses the appropriate components to perform regeneration operations (optical transmitter and optical receiver in claim 2). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to expressly incorporate a regeneration operation in the nodes of claim 2 of the copending application in view of Cadeddu et al. One of ordinary skill in the art would have been motivated to do this since there are transmission situations where an optical signal “may not be able to remain in optical form all the way to its destination and may have to be regenerated in between” (Ramaswami et al., p. 10, last paragraph).

This is a provisional obviousness-type double patenting rejection.

Response to Arguments

12. Applicant's arguments filed on 16 July 2004 with respect to the rejection of claims 36-46 in view of the prior art of record have been fully considered but they are not persuasive.

Art Unit: 2633

Applicant's arguments regarding these claims are based on limitations that were newly introduced to the claims by Applicant's amendment (16 July 2004):

- wherein a response to the failure condition is executed on a channel level; and
- the first and second ring networks being coupled to an optical switch unit that includes a number of switching blocks that is twice a number of protected channels.

However, the standing rejections of these claims show in further detail how these claims are still not patentable in view of copending Application No. 09/608,657 and Cadeddu et al. Note the cited portions of copending Application No. 09/608,657 and Cadeddu et al. above. Additionally, note the similarities between the "channel level" switching structures of Applicant's own invention (i.e. Fig. 3 of 09/750,311) and the switching structures of copending Application No. 09/608,657 (i.e. Fig. 3 of 09/608,657). Also, note the similarities between the "channel level" switching structures of Applicant's own invention (i.e. the arrangement of the 2x2 switches 22-25, the two transmitters Tx1 and Tx2, and the two receivers Rx1 and Rx2 in Fig. 3 of 09/750,311) and the switching structures of Cadeddu et al. (i.e. the arrangement of the 2x2 switches 11A, 11B, 12A, 12B, the two transmitters 15A and 14B, and the two receivers 14A and 15B in Figs. 3-6 of Cadeddu et al.).

13. Applicant's arguments filed on 16 July 2004 with respect to the rejection of claims 36-39 and 41-46 under the judicially created doctrine of obviousness-type double patenting in view of copending Application No. 09/608,657 in view of Cadeddu et al. and Ramaswami et al. have been fully considered but they are not persuasive. That is, Applicant's arguments regarding these claims are based on limitations that were newly introduced to the claims by Applicant's amendment (16 July 2004). However, note that the latest version of the claims of copending Application No. 09/608,657 also includes the same claim limitations introduced by Applicant's amendment to the instant application. More exactly, the following claim limitations are part of

Art Unit: 2633

the independent claims in both this instant application and copending Application No.

09/608,657:

- wherein a response to the failure condition is executed on a channel level; and
- the first and second ring networks being coupled to an optical switch unit that includes a number of switching blocks that is twice a number of protected channels.

The standing double patenting rejections show in further detail how the claims of the instant application are still not patentable in view of copending Application No. 09/608,657, Cadeddu et al., and Ramaswami et al.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Kim whose telephone number is 571-272-3033. The examiner can normally be reached on Mon.-Fri. 9 AM to 5 PM (EST).

Art Unit: 2633

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DSK

M. R. Sedighian
M. R. SEDIGHIAN
PRIMARY EXAMINER